



Dart Hawkesbury
1270 Aberdeen St
Hawkesbury, ON
K6A 1K7
Canada

Tel (613) 632-5200

D2230-1

Job Sheet 168322



Part No: D2230-1

Job Qty: 50 ea

Part Name: Mounting Lug



Part Weight: 0 lbs

Status: Scheduled

Priority: Medium

Job Created: 11/13/17

Job Tracking No:

Due Date: 11/20/17

Created By: Linda Lacelle

Type: Stock

Description:

Customer: Great Slave Helicopters Ltd (CGREA01)

Accounting Office, 6285 Airport Way Kelowna, BC, V1V 1S1 Canada ph:(403) 286-2040 fx:(250) 765-0077.

Ship Via:

Bill of Materials

Job Routing

Op No	Operation	Qty	Start Date	Due Date	Standard		Workcenter/Supplier		Sign-off
					Setup hrs	Run Hrs	Workcenter / Supplier	Lead Time	
110	Purchasing	50 pcs	11/18/17	11/18/17	0.00	0.00	Purchasing		SPR-12-29
120	Packaging	50 pcs	11/18/17	11/18/17	0.00	0.00	Packaging2		SPR-12-29
130	QC	50 pcs	11/18/17	11/18/17	0.00	0.00	QC6		38 JAN 1 2018
140	HandFinish	50 pcs	11/18/17	11/18/17	0.00	0.43	HandFinish1	N/C	9-89
150	QC	50 pcs	11/18/17	11/18/17	0.00	0.00	QC7		1/14 810Z L 3 N JAN 6 1 2018
160	Powdercoat	50 pcs	11/20/17	11/20/17	0.00	0.46	Powdercoat1		DAS
170	QC	50 pcs	11/20/17	11/20/17	0.00	0.00	QC3		38 1/14 JAN 6 1 2018
180	Packaging	50 pcs	11/20/17	11/20/17	0.00	0.00	Packaging3	5/525A	9-89
190	QC21-SA	50 Ea	11/20/17	11/20/17	0.00	0.00	QC21		21

Part Op 110 - Issue P/O to Metec: 3 8400

Descriptions: 120 - Ensure C of C is attach

160 - START TIME: 02/17/11/17

9-89 JAN 8 2018

Job Allocations

Operation	Component Part	Required	Inventory	Allocated	Std Qty
110-Purchasing	D2230-1P	50	0	0	0
	D2423	3	844	0	0

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐			
Date :	Step #:	QTY Effective :		MRB (QSI042) Approval	
Description Work Order Deviation			Disposition		
			Completed By		
			Lead hand / Supervisor Approval Verification		
			QC / QA Coordinator Approval		
Root Cause		FAULT CATEGORY			
Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐	No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐	Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐	Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐	Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Mislabelled ☐ Fit/Function ☐ Misaligned/off center ☐	Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐
OTHER : _____					

Part Specifications					
Spec No	Description	Target/Tolerance	Limits	Type	Special Comments
1	Mounting Lug	4.450Inches ± 0.010	4.460 4.440		
2	Mounting Lug	0.306Inches ± 0.010	0.316 0.296		
3	Mounting Lug	0.345Inches ± 0.010	0.355 0.335		
4	Mounting Lug	0.400Inches ± 0.010	0.410 0.390		
5	Mounting Lug	0.250Inches ± 0.010	0.260 0.240		
6	Mounting Lug	3.700Inches ± 0.010	3.710 3.690		
7	Mounting Lug	0.750Inches ± 0.010	0.760 0.740		
8	Mounting Lug	0.257Inches $+ 0.005$ $- 0.000$	0.262 0.257	Diameter	
9	Mounting Lug	1.910Inches ± 0.010	1.920 1.900		
10	Mounting Lug	1.200Inches ± 0.010	1.210 1.190	Radius	
11	Mounting Lug	0.375Inches ± 0.010	0.385 0.365		
12	Mounting Lug	0.273Inches ± 0.010	0.283 0.263		

Plex 11/14/17 8:08 AM dart.boucher.sylvie

DQA: _____ Date: _____

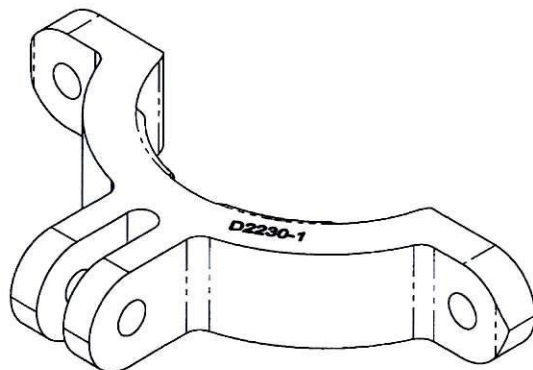


WORK ORDER NON-CONFORMANCE / UPDATE

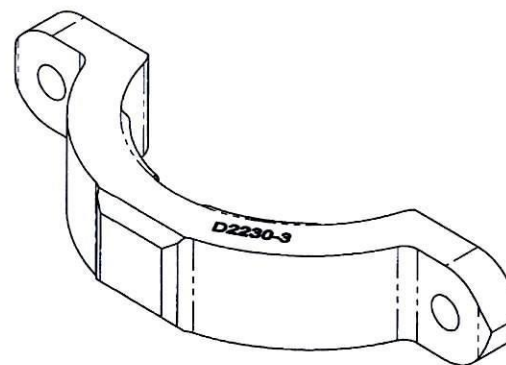
QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :			MRB (QSI042) Approval		
Description Work Order Deviation				Disposition				Completed By	
								Lead hand / Supervisor Approval Verification	
								QC / QA Coordinator Approval	
Root Cause		FAULT CATEGORY							
Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐	No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐	Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐	Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐	Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Misabeled ☐ Fit/Function ☐ Misaligned/off center ☐	Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐	OTHER : _____			



D2230-1 MOUNTING LUG



D2230-3 MOUNTING LUG

SHOP COPY
RETURN TO
ENGINEERING
UNCONTROLLED COPY
SUBJECT TO AMENDMENT

WITHOUT NOTICE
WORK ORDER
NO. 168322

DAS
30
9-89

NOV 16 2017

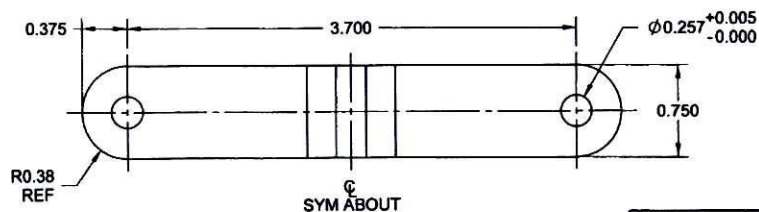
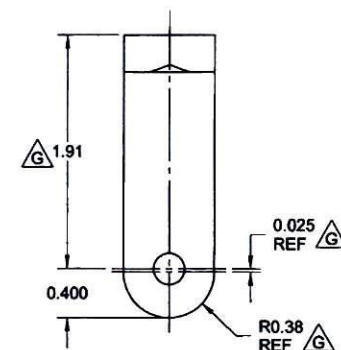
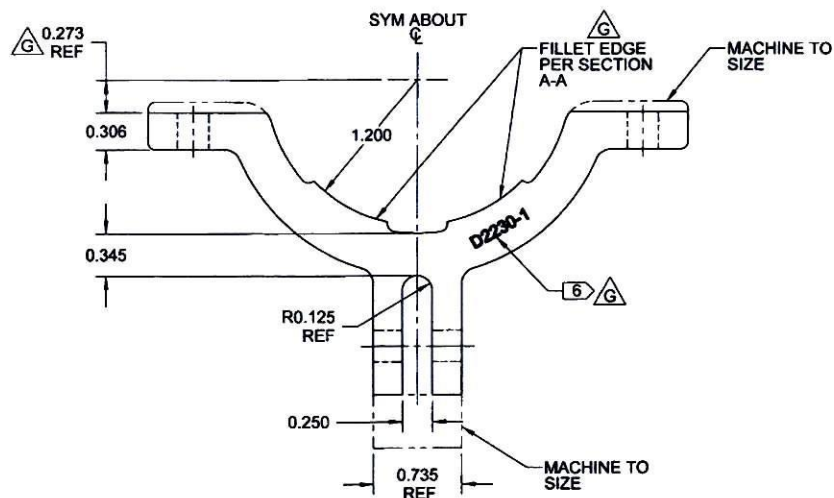
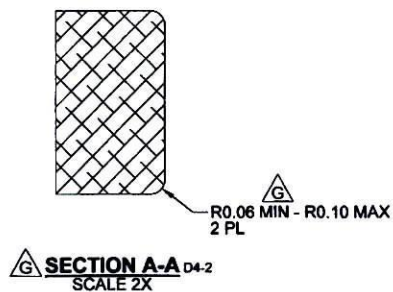
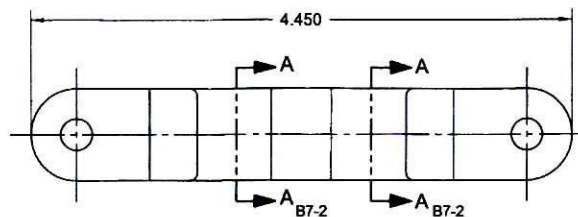
RELEASED
09/16/15

G	REDRAWN IN SOLIDWORKS TO CURRENT DESIGN STANDARDS. REFER TO SECTION A-A & B-B FILLET ADDED TO PREVENT CHAFING OF RUBBER CUSHION ON INSTALLATION.	AJS	09.01.16
F	REDESIGN; R1.200 WAS 1.100	CP	99.12.13
E	RE-DESIGN	BW	95.01.04
D	RE-DESIGN	BW	95.01.04
C	RE-DESIGN	BW	94.03.30
REV.	DESCRIPTION	BY	DATE
DESIGN	BW	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA DRAWING NO. D2230 TITLE MOUNTING LUG SHEET 1 OF 3 SCALE NTS COPYRIGHT © 1994 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.	
DRAWN	AJS		
CHECKED			
MFG. APPR.			
APPROVED			
DE APPR.			
DATE	09.01.16		



NOTES:

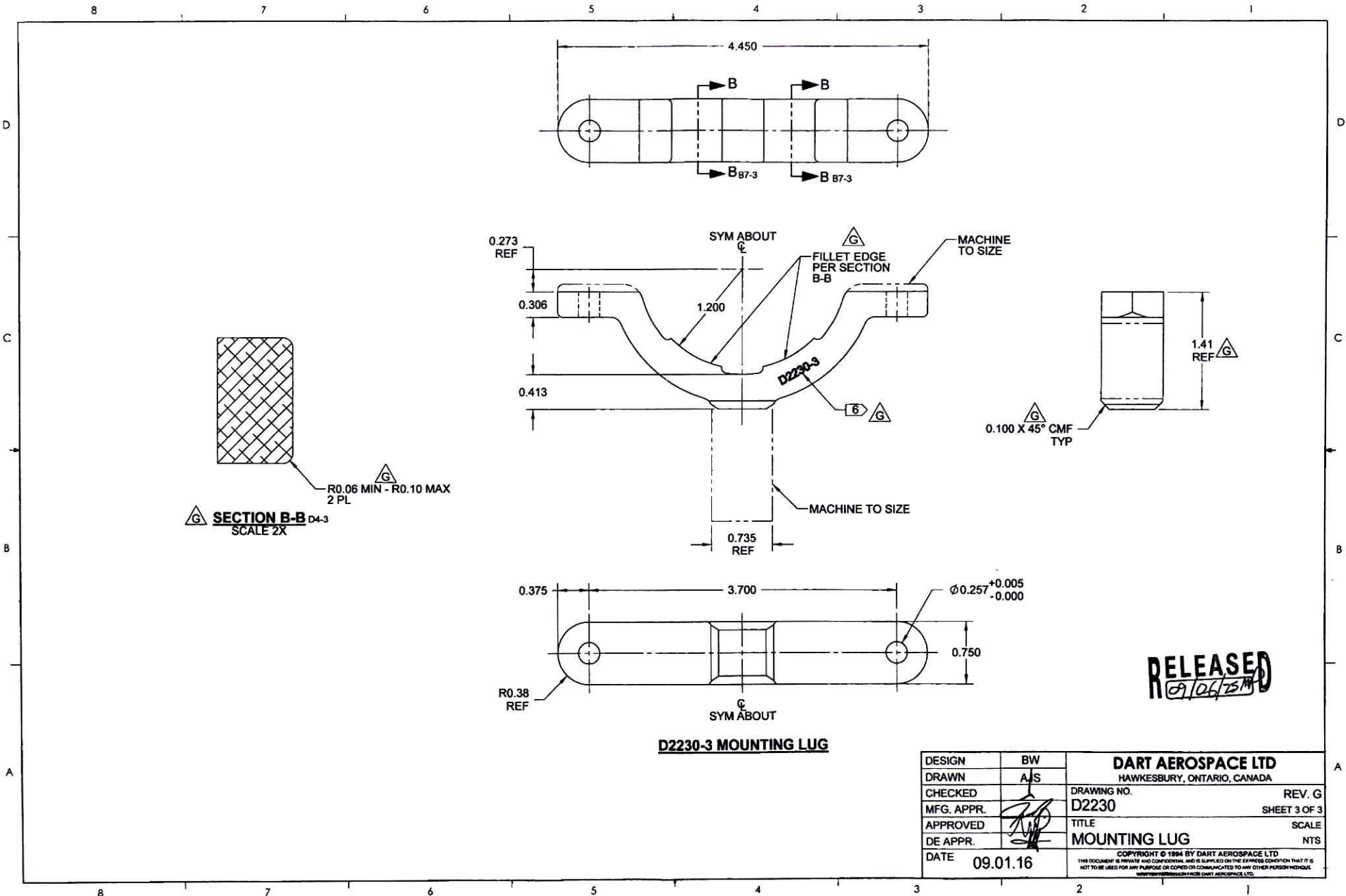
- 1) MATERIAL: MAKE FROM D2423 EXTRUSION
- 2) FINISH: CHEMICAL CONVERSION COAT PER DART QSI 005 4.1
POWDER COAT WHITE (4.3.5.1) PER DART QSI 005 4.3
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: ENGRAVE PART NUMBER TO A DEPTH OF 0.010 ± 0.005 IN THIS LOCATION, WITH TOOL TIP RADIUS OF 0.015 ± 0.005.
- 7) WEIGHT: -1: 0.16 lbs
-3: 0.14 lbs



D2230-1 MOUNTING LUG

RELEASED
09/06/85

DESIGN	BW	DART AEROSPACE LTD	
DRAWN	AJS	HAWKESBURY, ONTARIO, CANADA	
CHECKED		DRAWING NO. D2230	REV. G
MFG. APPR.		TITLE MOUNTING LUG	SHEET 2 OF 3
DE APPR.		SCALE NTS	
DATE	09.01.16	COPYRIGHT © 1984 BY DART AEROSPACE LTD THIS DOCUMENT IS UNCLASSIFIED AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR FOR ANY CORRELATION TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.	





Dart Hawkesbury
1270 Aberdeen St
Hawkesbury, ON
K6A 1K7
Canada

Tel (613) 632-5200

Workcenter Job Summary

Workcenter Type: *	Workcenter Status: *	Workcenter: Multiple
Part: *	Date Range: 10/22/2017 to 10/27/2017	Job No: *
Operator: *	Efficiency: *	Shift Group: *
Warehouse: *	Target Rates: All	Detail Header: No
Historical: No		

Job Details													Earned Hrs						Efficiency Summary							
W/C	Part No	Rev	Job Template	Job	Op No	Date	Shift Grp	Operator	Prod Qty	Log hrs	Downtime (Included in Log)			S/U	Standard		Ideal		Target		Std Rate	Ideal Rate	Targe Rate	Prod Eff (Std)	Prod Eff (Ideal)	Prod Eff (Targe)
											S/U hrs	Maint hrs	Other hrs		Prod	Total (S/U+P)	Prod	Total (S/U+P)	Prod	Total (S/U+P)						
Automated welding	D3849-041			166775	105	10/25/2017	3rd	Larocque	0	9.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.30			.00 %	.00 %	.00 %
				166775	105	10/25/2017	1st	Crispin	2	1.17	.00	.00	.00	.00	6.67	6.67	.00	.00	.00	.00	same as above		570.09 %	.00 %	.00 %	
				166775	105	10/25/2017	2nd	Larocque	0	8.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	same as above		.00 %	.00 %	.00 %	
				166775	105	10/26/2017	2nd	Larocque	0	8.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	same as above		.00 %	.00 %	.00 %	
				166775	105	10/26/2017	3rd	Larocque	0	9.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	same as above		.00 %	.00 %	.00 %	
				166775	105	10/26/2017	1st	Larocque	0	7.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	same as above		.00 %	.00 %	.00 %	
				166775	105	10/27/2017	3rd	Larocque	0	9.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	same as above		.00 %	.00 %	.00 %	
				166775	105	10/27/2017	2nd	Larocque	0	8.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	same as above		.00 %	.00 %	.00 %	
				166775	105	10/27/2017	1st	Larocque	0	7.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	same as above		.00 %	.00 %	.00 %	
Sub-Total:									2	66.17	.00	.00	.00	.00	6.67	6.67	.00	.00	.00	.00	Average:		10.08 %	.00 %	.00 %	
	D3901-041			166783	110	10/23/2017	3rd	Larocque	0	9.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	1.53			.00 %	.00 %	.00 %
				166783	110	10/23/2017	2nd	Larocque	0	8.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	same as above		.00 %	.00 %	.00 %	
				166783	110	10/23/2017		Larocque	2	.91	.00	.00	.00	.00	1.31	1.31	.00	.00	.00	.00	same as above		143.96 %	.00 %	.00 %	
				166783	110	10/23/2017	1st	Larocque	0	7.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	same as above		.00 %	.00 %	.00 %	
				166783	110	10/24/2017	1st	Larocque	0	4.95	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	same as above		.00 %	.00 %	.00 %	
Sub-Total:									2	29.86	.00	.00	.00	.00	1.31	1.31	.00	.00	.00	.00	Average:		4.39 %	.00 %	.00 %	
				166783-A	110	10/24/2017	1st	Larocque	2	.30	.00	.00	.00	.00	1.31	1.31	.00	.00	.00	.00	same as above		436.67 %	.00 %	.00 %	
Sub-Total:									2	.30	.00	.00	.00	.00	1.31	1.31	.00	.00	.00	.00	Average:		436.67 %	.00 %	.00 %	
				166783-B	110	10/24/2017	1st	Larocque	2	.30	.00	.00	.00	.00	1.31	1.31	.00	.00	.00	.00	same as above		436.67 %	.00 %	.00 %	
Sub-Total:									2	.30	.00	.00	.00	.00	1.31	1.31	.00	.00	.00	.00	Average:		436.67 %	.00 %	.00 %	
				166783-C	110	10/24/2017	1st	Larocque	2	1.38	.00	.00	.00	.00	1.31	1.31	.00	.00	.00	.00	same as above		94.93 %	.00 %	.00 %	
				166783-C	110	10/24/2017	2nd	Larocque	0	.57	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	same as above		.00 %	.00 %	.00 %	
Sub-Total:									2	1.95	.00	.00	.00	.00	1.31	1.31	.00	.00	.00	.00	Average:		67.18 %	.00 %	.00 %	
				166783-D	110	10/24/2017	2nd	Larocque	2	7.43	.00	.00	.00	.00	1.31	1.31	.00	.00	.00	.00	same as above		17.63 %	.00 %	.00 %	
				166783-D	110	10/24/2017	3rd	Crispin	0	9.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	same as above		.00 %	.00 %	.00 %	
				166783-D	110	10/25/2017	1st	Crispin	0	5.83	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	same as above		.00 %	.00 %	.00 %	
Sub-Total:									2	22.26	.00	.00	.00	.00	1.31	1.31	.00	.00	.00	.00	Average:		5.88 %	.00 %	.00 %	
Bandsaw1	D2616-2			166976	100	10/24/2017	1st	Gagnon-Donovan	0	5.20	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	3,114.19			.00 %	.00 %	.00 %
Sub-Total:									0	5.20	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	Average:		.00 %	.00 %	.00 %	
				167087	100	10/24/2017	1st	Gagnon-Donovan	0	.02	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	same as above		.00 %	.00 %	.00 %	
				167087	100	10/24/2017	1st	Lamarche	8	.02	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	same as above		.00 %	.00 %	.00 %	



Dart Hawkesbury
1270 Aberdeen St
Hawkesbury, ON
K6A 1K7
Canada

Tel (613) 632-5200

PURCHASE ORDER PO038406

Supplier: MEM001-VC
Metec Metal Technology Inc.
20 Terry Fox Drive PO Box 781
Vankleek Hill
ON
K0B 1R0 Canada
Phone: 613 678 3957
Fax: 613 678 3956

Attention: Walz, Shigi

Ship To: 1270 Aberdeen Street
Hawkesbury
ON
K6A 1K7 Canada
Phone: 613-632-5200

PO No: PO038406

PO Date: 11/17/17

Due Date: 12/7/17

Purchase Order

Revision:

Revision Date:

Ship-To Contact: Lavoie, Chantal
clavoie@dartaero.com

Via: Ground

Pymt Terms: Net 30

Freight Terms:

Special Comments:

E-MAILED
NOV 20 2017

Items

Line Item	Part	Rev	Supplier Part No	Item No	Description	Item Tax	Status	Due Date	Order Quantity	Received Quantity	Balance	Unit Price (CAD)	Extended Price
1	D2230-1P				Lug		Firmed	12/7/17	50 pcs	0 pcs	50 pcs	\$16.10/pcs	\$805.00
Line Item Note: ALODINE AND PAINT AS PER QSI 005 MACHINE AS PER DWG D2230 REV. G B168322													

Grand Total: \$805.00

Order Notes

Terms & Condition of Purchasing(Suppliers) and Procurement Quality Clauses are an integral part of our AS9100 requirements. To learn in detail, please visit www.dartaerospace.com for further explanation.

Procurement Quality Clauses

A005 RIGHT OF ENTRY

A007 FIRST ARTICLE INSPECTION (FAI) BY SELLER, (DOCUMENTATION MAINTAINED BY SUPPLIER)

A012 CHEMICAL AND PHYSICAL TEST REPORTS

A016 PERSONNEL QUALIFICATION

A017 RAW MATERIAL IDENTIFICATION (AS APPLICABLE)

A026 CERTIFICATION OF MATERIAL CONFORMANCE

A041 QUALITY MANAGEMENT SYSTEM

A042 DART NOTIFICATION BY SUPPLIER

A043 RETENTION OF QUALITY DOCUMENT

A048 COUNTERFEIT PARTS AVOIDANCE, DETECTION, MITIGATION AND DISPOSITION PROGRAM

A049 SUPPLIER AWARENESS

Plex 11/17/17 2:46 PM dart.lavoie.chantal



20 Terry Fox Drive
Vankleek Hill, Ontario K0B 1R0 , Canada
Tel: (613) 678-3957
Fax: (613) 678-3956

Delivery Slip No.: 22315
Date: Dec 22, 2017
Page: 1

Sold to: Dart Aerospace Ltd. Att. Linda Lacelle 1270 Aberdeen Street Hawkesbury, Ontario K6A 1K7	Ship to: Dart Aerospace Ltd. Att. Linda Lacelle 1270 Aberdeen Street Hawkesbury, Ontario K6A 1K7
Order No.: PO038406	Sold By: Walz, Christian D.
Shipped By: your truck	Ship Date: Dec 22, 2017

Description	Bin Loc	Unit	Quantity ordered	Quantity shipped	Quantity on B/O
D2230-1 Mounting Lug Alodine and Paint as per QSI 005		Each	50	50	
					
Date: 31 8-89					
The delivered goods must be inspected upon receipt to confirm compliance. Should there be discrepancies please notify METEC within 30 days of delivery. The goods are otherwise deemed accepted.					
Received by _____			Thank you for your order!		



20 Terry Fox Drive, Vankleek Hill, Ontario K0B 1R0

Tel. (613) 678-3957 & (613) 678-2782 Fax (613) 678-3956 metec@metec.ca

CERTIFICATE OF CONFORMITY

SOLD TO:

Dart Aerospace Ltd.
1270 Aberdeen Street
Hawkesbury, Ont.
K6A 1K7

SHIPPED TO:

same

<u>QUANTITY</u>	<u>PART NUMBER</u>	<u>PART NAME</u>	<u>P.O. NUMBER</u>
50	D2230-1	Lug Paint Batch # 21597 Material B160522	38406

Material supplied by DART

We hereby certify that the above parts were made in conformance with applicable drawings.

METEC Metal Technology Inc.

A handwritten signature in blue ink that reads "Heather Nixon".

Heather Nixon

Vankleek Hill, December 22, 2017



PART NO: D2230 – 1
Revision:
Operation: Purchasing
Change No:

Mfg Date: 12/29/17
Job No: 168322

73822c
 73822c
 90.2230-1
 10 3235-3
 301 3910-1